I claim:

1. A satellite communication system comprising:

a terrestrial base station; and

a first satellite communicating with said terrestrial base station using a infrared signal.

2. The satellite communication system of claim 1, wherein said communicating includes transmitting said infrared signal between said terrestrial base station and said first satellite; and

wherein an optimal location for transmitting said infrared signal is determined based on a frequency of said infrared signal and the attenuation of said infrared signal at said frequency.

3. The satellite communication system of claim 2, wherein said attenuation is based on the cloud water content persistent in a region including said optimal location.

4. The satellite communication system of claim 3, wherein said optimal location is defined by longitude and latitude.

5. The satellite communication system of claim 3, wherein said cloud water content is determined based on an exceedance probability.

6. The satellite communication system of claim 3, wherein said cloud water content is determined based on a cloud water content formula.

7. The satellite communication system of claim 3, wherein said optimal location is based on the probability density function of an elevation angle.

8. The satellite communication system of claim 1, further comprising at least a second satellite, a third satellite, a fourth satellite, and a fifth satellite, said first satellite, said second satellite, and said third satellite each being in a phased Molniya orbit, and said fourth satellite and said fifth satellite each being in a geosynchronous orbit.

9. The satellite communication system of claim 1, wherein said communicating includes receiving said infrared signal between said terrestrial base station and said first satellite; and

wherein an optimal location for receiving said infrared signal is determined based on a frequency of said infrared signal and the attenuation of said infrared signal at said frequency.

10. The satellite communication system of claim 9, wherein said attenuation is based on the cloud water content persistent in a region including said optimal location.

11. The satellite communication system of claim 10, wherein said optimal location is defined by longitude and latitude.

12. The satellite communication system of claim 10, wherein said cloud water content is determined based on an exceedance probability.

13. The satellite communication system of claim 10, wherein said cloud water content is determined based on a cloud water content formula.

14. The satellite communication system of claim 10, wherein said optimal location is based on the probability density function of an elevation angle.

15. A terrestrial base station communication system comprising:

a terrestrial base station communicating with a first satellite using an infrared signal.

16. The terrestrial base station communication system of claim 15, wherein said communicating includes transmitting said infrared signal between said terrestrial base station and said first satellite; and

wherein an optimal location for transmitting said infrared signal is determined based on a frequency of said infrared signal and the attenuation of said infrared signal at said frequency.

17. The terrestrial base station communication system of claim 16, wherein said attenuation is based on the cloud water content persistent in a region including said optimal location.

18. The terrestrial base station communication system of claim 17, wherein said optimal location is defined by longitude and latitude.

19. The terrestrial base station communication system of claim 17, wherein said cloud water content is determined based on an exceedance probability.

20. The terrestrial base station communication system of claim 17, wherein said cloud water content is determined based on a cloud water content formula.

21. The terrestrial base station communication system of claim 17, wherein said optimal location is based on the probability density function of an elevation angle.

22. The terrestrial base station communication system of claim 15, further comprising at least a second satellite, a third satellite, a fourth satellite, and a fifth satellite, said first satellite, said second satellite, and said third satellite each being in a phased Molniya orbit, and said fourth satellite and said fifth satellite each being in a geosynchronous orbit.

23. The terrestrial base station communication system of claim 15, wherein said communicating includes receiving said infrared signal between said terrestrial base station and said first satellite; and

wherein an optimal location for receiving said infrared signal is determined based on a frequency of said infrared signal and the attenuation of said infrared signal at said frequency.

24. The terrestrial base station communication system of claim 23, wherein said attenuation is based on the cloud water content persistent in a region including said optimal location.

25. The terrestrial base station communication system of claim 24, wherein said optimal location is defined by longitude and latitude.

26. The terrestrial base station communication system of claim 24, wherein said cloud water content is determined based on an exceedance probability.

27. The terrestrial base station communication system of claim 24, wherein said cloud water content is determined based on a cloud water content formula.

28. The terrestrial base station communication system of claim 24, wherein said optimal location is based on the probability density function of an elevation angle.

29. A method for determining an optimal location for transmitting an infrared signal between a terrestrial base station and a satellite, said method comprising the steps of:

determining a first cloud water content at a first location in a region;

determining a first attenuation of said infrared signal based on said first cloud water content;

determining a second cloud water content at a second location in said region;

determining a second attenuation of said infrared signal based on said second cloud water content;

determining the lesser of said first attenuation and said second attenuation;

selecting one of said first location and said second location as an optimal location, said first location being selected if said first attenuation is less than said second attenuation, said second location being selected if said second attenuation is less than said first attenuation.

30. The method of claim 29, wherein said step of determining said first cloud water content is based on an exceedance probability.

31. The method of claim 29, wherein said step of determining said second cloud water content is based on an exceedance probability.

32. The method of claim 29, wherein both said step of determining said first cloud water content and said step of determining said second water content is based on an exceedance probability.

33. The method of claim 29, wherein said step of determining said first cloud water content is based on an exceedance probability.

34. The method of claim 29, wherein said step of determining said second cloud water content is based on an exceedance probability.

35. The method of claim 29, wherein both said step of determining said first cloud water content and said step of determining said second water content is based on an exceedance probability.

36. The method of claim 29, wherein said step of determining said first attenuation is based on the probability density function of an elevation angle.

37. The method of claim 29, wherein said step of determining said second attenuation is based on the probability density function of an elevation angle.

38. The method of claim 29, wherein both said step of determining said first attenuation and said step of determining said second attenuation is based on the probability density function of an elevation angle.

39. A method for determining an optimal location for receiving an infrared signal between a terrestrial base station and a satellite, said method comprising the steps of:

determining a first cloud water content at a first location in a region;

determining a first attenuation of said infrared signal based on said first cloud water content;

determining a second cloud water content at a second location in said region;

determining a second attenuation of said infrared signal based on said second cloud water content;

determining the lesser of said first attenuation and said second attenuation;

selecting one of said first location and said second location as an optimal location, said first location being selected if said first attenuation is less than said second attenuation, said second location being selected if said second attenuation is less than said first attenuation.

40. The method of claim 39, wherein said step of determining said first cloud water content is based on an exceedance probability.

41. The method of claim 39, wherein said step of determining said second cloud water content is based on an exceedance probability.

42. The method of claim 39, wherein both said step of determining said first cloud water content and said step of determining said second water content is based on an exceedance probability.

43. The method of claim 39, wherein said step of determining said first cloud water content is based on an exceedance probability.

44. The method of claim 39, wherein said step of determining said second cloud water content is based on an exceedance probability.

45. The method of claim 39, wherein both said step of determining said first cloud water content and said step of determining said second water content is based on an exceedance probability.

46. The method of claim 39, wherein said step of determining said first attenuation is based on the probability density function of an elevation angle.

47. The method of claim 39, wherein said step of determining said second attenuation is based on the probability density function of an elevation angle.

48. The method of claim 39, wherein both said step of determining said first attenuation and said step of determining said second attenuation is based on the probability density function of an elevation angle.

49. A satellite communication system comprising:

a terrestrial base station;

a first satellite communicating with said terrestrial base station using a signal;

wherein said communicating includes transmitting said signal between said terrestrial base station and said first satellite;

wherein an optimal location for transmitting said signal is determined based on a frequency of said signal and the attenuation of said signal at said frequency; and

wherein said attenuation is based on the cloud water content persistent in a region including said optimal location.

50. A satellite communication system comprising:

a terrestrial base station;

a first satellite communicating with said terrestrial base station using a signal;

wherein said communicating includes receiving said signal between said terrestrial base station and said first satellite;

wherein an optimal location for transmitting said signal is determined based on a frequency of said signal and the attenuation of said signal at said frequency; and

wherein said attenuation is based on the cloud water content persistent in a region including said optimal location.

51. The satellite communication system of claim 50, wherein the terrestrial base station is located at the optimal location.